

ASBESTOS REGULATION 61-86.1 - PROPOSED REVISION 2007-2008

The following comprises a general summary of the Department's proposed revisions to the noted regulation. To see the actual language changes that will be made to the regulation, please visit our website at <http://www.scdhec.net/environment/baq/asbestos.aspx>, and then click on the title marked:

“2007 Proposed Revisions to Asbestos Regulation 61-86.1”

For questions concerning the proposed revisions, please contact Anthony Lofton at (803) 898-7217 or loftonat@dhec.sc.gov.

PROPOSED REVISIONS BY SECTION:

Section I. Definitions

4. “AHERA” – The words “Regulations developed pursuant to” and (October 30, 1987) were added to the language for clarification.

Regulations developed pursuant to Asbestos Hazard Emergency Response Act, 40 CFR Part 763, Asbestos Containing Materials in Schools (October 30, 1987).

13. “Asbestos Project” - The definition was revised to mirror the Statute language.

Any activity associated with abatement including inspection, design, air monitoring, in-place management, encapsulation, enclosure, renovation, repair, removal, any disturbance of regulated asbestos-containing material (RACM), and demolition of a regulated facility.

15. “Asbestos containing material (ACM)” – Corrected reference.

Material containing asbestos of any type, either alone or mixed with other materials, in an amount greater than ± one percent (1%) as determined by using the method specified in 40 CFR Part 763 Appendix E, Subpart E, as amended, or an accepted equivalent.

17. “Asbestos training course provider” – Revised wording in order to make definition consistent with wording of related definitions.

The person, sole proprietorship, public corporation, or incorporated entity that meets the qualifications of this regulation to provide instruction in any of the specific work practice topics or disciplines, non-work practice topics, and/or hands-on topics in any Department approved initial and/or refresher training course.

20. “ASHARA” – The words Regulations developed pursuant to 40 CFR Part 763 Subpart E, Appendix C, Model Accreditation Plan and (November 28, 1992) were added to the language for clarification.

Regulations developed pursuant to 40 CFR Part 763 Subpart E, Appendix C, Model Accreditation Plan Asbestos School Hazard Abatement Reauthorization Act (November 28, 1992).

23. “Building inspection” – Added the words by a Department licensed asbestos building inspector to clarify who should conduct the building inspection.

An activity undertaken at a facility by a Department licensed asbestos building inspector to determine the presence and location of regulated and non-regulated asbestos-containing materials (ACM), and to assess the condition of materials identified as ACM. This includes visual or physical examination and bulk sample collection.

30. “Consultant” – Deleted definition. Category does not exist and is not licensed by the asbestos program.

32. “Critical Barrier” – Language from OSHA incorporated for consistency and clarification.

At minimum, two independent layers of 6mil plastic sheeting applied to any opening into a work area in a manner that creates a leak-tight seal applied from within the work area to isolate vents, windows, doors, switches, outlets, and any other cavity or opening to the contaminated work area.

35. “Demolition” – Language added to clarify that moving of a structure constitutes a demolition.

Wrecking or taking out any load-supporting structural member of a facility together with any related handling operations, or the burning of any regulated facility, or moving of a structure..

46. “Friable” – Added additional language for clarification.

Refers to ACM, which may, when dry, be crumbled, pulverized, or reduced to powder by the forces expected to act upon it in the course of demolition or renovation operations. This also refers to previously non-friable ACM after such material becomes damaged to the extent that when dry, ~~may be~~ can be or has been crumbled, pulverized, or reduced to powder.

48. “Goose Neck” – Added definition in response to a stakeholder request. Term defines the process for properly securing an asbestos waste bag.

Process of sealing the outer bag to create a leak-tight container by twisting the opening of the bag, folding twisted portion of the bag over, and creating a loop. Adequately secure the opening of the bag to the base of the twist using duct tape.

52. “Homogeneous area” – Added definition using AHERA language for clarification

Area of surfacing material, thermal system insulation material, or a miscellaneous material that is uniform in color or texture.

56. “Issue date” – The term examination date will replace issue date. Examination date is more representative of the definition.

60. “Manometer” – Definition added for manometer for clarification.

Instrument for the measurement of gas pressure whose units are represented in inches of water column.

62. “Moveable object” – Stakeholder suggestion to replace easily removed with moved. Easily is relative and moved better reflects the action taking place.

A structure within the work area that can be easily *moved*, (e.g. chair, desk, etc.).

67. “Non-industrial Facility” – Definition added to clarify that any public, institutional or governmental agency not meeting definition for industrial manufacturing or electrical generating facility is considered a non-industrial facility and can obtain an employee group license.

Any public, *private*, institutional or governmental entity that does not meet the definition of an electrical generating or industrial manufacturing facility as defined in this regulation.

69. “O&M Worker” – Definition added to clarify that an O&M worker can only be licensed under a group license. No license will be issued to an individual.

An individual licensed under a facility group license to perform an operation and maintenance activity at that facility.

78. “Regulated area” – Added definition from OSHA for consistency.

An area established by the owner and/or operator of an asbestos project to demarcate areas where asbestos abatement activities are conducted; any adjoining area where debris and waste from such asbestos work is stored; and any work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

75. “Process date” – The term issue date will replace process date. Issue date is more representative of the definition.

82. “Repair” – Replaced existing definition with definition from AHERA.

Returning damaged asbestos-containing material to an undamaged condition or to an intact state so as to prevent fiber release.

84. “Roofing material” – Deleted definition. The proposed regulatory revision eliminates the section for roofing projects. So, there is no need for the definition of roofing material. Roofing projects will be considered as outdoor removals.

95. “Variance” – Added definition to clarify that a variance is written approval for alternative work practices at an asbestos project.

Written Departmental approval for the use of alternative work practices at an asbestos project.

98. “Wet cleaning” – Replaced eliminating with removing. Stakeholder commented that it was not possible to eliminate asbestos contamination.

The process of *removing* asbestos contamination from facility surfaces and objects by using cloths, mops, or other cleaning tools ~~which~~ **that** have been dampened with amended water.

Several other existing definitions had words added or deleted for clarification purposes with no change in enforcement applications.

Section II. Applicability

A. Removed the word consultant for consistency. Added additional language for clarification. Removed the word other from the phrase “any other disturbance of RACM”. Wording in the section was modified to clarify that this regulation applies to any renovation or demolition project.

The requirements of this regulation shall apply to: any owner **and/or** operator, building inspector, management planner, project designer, contractor, asbestos abatement entity, air sampler, commercial labor provider, supervisor, worker, **non-industrial facility owner and/or operator**, or demolition contractor involved in the inspection, in-place management, design, removal, encapsulation, enclosure, renovation, repair, demolition **activity**, or any disturbance of RACM; and ~~to~~ any asbestos training course provider or asbestos training course instructor who conducts mandatory asbestos training courses.

D. Language from the 1996 EPA residential clarification document added to this section to clarify when a residential structure is regulated for consistency with existing EPA requirements.

Asbestos projects occurring at a private residential structure of four units or fewer may be exempt from the requirements of this regulation unless:

1. Performed by a person or persons holding *an asbestos abatement license*.

2. Performed as part of a larger commercial or public project, such as, but not limited to, highway construction; development of a shopping mall, industrial facility, other private development; or urban renewal, etc.

3. *Multiple structures within a compact area (“city block”)* under the ownership and/or control of a single owner and/or operator.

4. *The structure* meets the definition of an installation.

5. The residential structure is being burned for fire training.

6. The residential structure(s) has previously been used for any commercial purpose including having been used as a rental property.

E. Clarified that each building at a multi-building site is a separate project.

If asbestos projects occur at ~~different~~ **non-adjointing** buildings (different schools **buildings**, for example) then each **separate** building shall be considered a separate project.

Section III. Fees

Created a section for fee information using existing language. Any changes to the existing language have been noted.

A(2). Clarified acceptable methods of payment.

Acceptable methods of payment shall be by check or money order made payable to SCDHEC, by credit card (VISA, MasterCard, or Discover), or cash.

B(2). Clarified that each building at a multi-building site is a separate project and is assessed for fees independently.

Each separate building at a multi-building site shall be considered a separate asbestos project, and fees will be assessed for each.

B. Personnel Licensing fees.

6. The annual fee for a Non-Industrial Facility Operation & Maintenance (O & M) Worker Group License is \$25.00 regardless of the number of individuals covered by the license. This change was made to simplify and standardize the fee processing for group licensing. The fee was determined by taking the average cost of non-industrial O & M licenses issued in 2006.

Section IV. Personnel Licensing Requirements.

A(1). Clarified that previously non-friable ACM that has been rendered friable requires licensed abatement personnel.

1. No person or contractor shall engage in any asbestos project or abatement involving ~~regulated asbestos-containing material~~ RACM, or ACM rendered regulated by removal techniques or methods, unless licensed to do so by the Department.

A(2). Clarified that when an individual or company plans to perform duties of an asbestos contractor for hire, the entity must be licensed as an asbestos contractor.

Every contractor, supervisor, worker, air sampler, project designer, building inspector, or management planner who engages in any asbestos project shall have a current and valid license specific to the duties performed under the license.

B(c). Based on stakeholder feedback, revised requirement so that only the last four digits of an individual's social security number are printed on the training documentation.

A letter verifying successful completion of training, which includes the name, *last four digits of* social security number, unique certificate number, test score, and printed name and signature of ~~the~~ course instructor and which is sent directly to the Department from the training provider.

C(1)(c). Added requirement to submit a color passport photo or have photo taken by the Department. The Department had received stakeholder feedback that a photo ID badge system was desirable for personnel licenses. There was a concern that the current system did not deter fraudulent reproduction of the licenses. So, the Department is transitioning to a photo ID system. This new language supports the new process.

C(2)(g)(1). Added language to require the submission of a company's Federal Employee Identification Number (FEIN) and the registered agent with the SC Secretary of State Office on the application for a contractor's license. This change supports EQC's move towards gathering this information. FEIN numbers are important for enforcement cases as well as following up on outstanding fees.

F. Added language to clarify that no license will be issued when falsified information and/or fraudulent documents are submitted for licensing purposes.

Section V. Asbestos Projects/General Information.

A. Added non-industrial facility owner and/or operator and demolition contractor to the applicability requirement.

The requirements of this Section shall apply to the owner/operator, building inspector, management planner, project designer, air sampler, consultant, supervisor, ~~or worker,~~ non-industrial facility owner and/or operator, or demolition contractor of any asbestos project involving the disturbance of ~~regulated asbestos-containing~~ RACM or asbestos-contaminated materials.

B. Added the following requirements:

2. *The asbestos project design must address;*

- a. Preparation of each asbestos-related work area;*
- b. Establishment of each containment;*
- c. Establishment of each documentation unit and procedures for use;*
- d. Evaluation and selection of various fiber release control options;*
- e. Establishment, maintenance, and monitoring of negative air pressure within each containment;*
- f. RACM enclosure, removal, encapsulation, or repair work practices;*
- g. Visual inspection procedures for each asbestos abatement containment area;*
- h. Clean-up and final clearance procedures;*
- i. Air monitoring, including analysis, documentation, and any other required record keeping;*
- j. Respiratory protection and personal protective equipment requirements;*
- k. Procedures for on-site storage, handling, and disposal of ACM and project waste; and*
- l. Procedures for maintaining personnel licenses and training certificates on-site.*

This addition was made in response to stakeholder feedback. Research was done using other state asbestos regulations for guidance on what to include in this section.

5. When any negative pressure enclosure or contained work area is required for any sized asbestos abatement project or demolition project, the following requirements shall apply:

- a. There shall be sufficient negative *pressure* differential equipment to ensure at least four air changes per hour;
- b. A minimum of -0.02 column inches of water pressure differential, relative to outside pressure, shall be maintained as verified and recorded by a manometer;
- c. The manometer record of daily readings (to be taken *four times* every *eight-hour shift* by a licensed air sampler independent from the contractor) verifying the negative pressure shall be maintained at the job site for Department review for the duration of the project;
- d. The *inlet sensor of the* manometer shall be located at the farthest point from any source of make-up air;
- e. *The manometer must be calibrated in accordance with manufacturer's guidelines..*
- f. Negative pressure shall be maintained until final clearance has been achieved; and
- g. Air movement shall be directed away from employees performing asbestos work within the enclosure/containment and toward a HEPA filtration or other collection device.

This section was included to establish parameters for maintaining and monitoring negative air in containment. Industry standards were used in the development of the section. This is a significant enhancement to the existing regulation. Being able to monitor for and identify breaches in containment is crucial in limiting exposure to RACM.

6. The owner and/or operator shall notify the Department by telephone and in writing as early as possible , but not later than the following working day.

This revision provides a little more flexibility for notification than that indicated in the existing regulation.

C.1. Every asbestos abatement entity performing abatement work shall have at the project site a legible, clear copy of a valid current initial or refresher training certificate issued by an approved training provider.

This revision provides clarification that the training certificate must be valid, clear, and legible.

E.1. For an emergency operation, the owner and/or operator *must notify the Department by telephone immediately* and must submit a project notification/application as early as possible before, but not later than, the working day following the emergency operation.

Added italicized language in order to clarify when the notification should be received.

Section VI. Asbestos Building Inspection Requirements.

Created this section based on existing policies and procedures established by the Department. The desire is to incorporate existing expectations in order to standardize the sampling and reporting process.

A.2. In a multi-unit building, each separate room in each unit shall be inspected to confirm and quantify ACM homogeneous areas for sampling purposes.

A.4. The Department will not accept an asbestos building inspection or written report for any structure from an employee of an abatement company also involved in the removal of asbestos-containing materials from that structure.

A.5. An asbestos building inspector shall not participate in the analysis of the bulk samples he or she has collected.

B. Integrated language from EPA 40 CFR Part 763.85, AHERA to promote consistency in building inspections and to make regulations more user-friendly. B(f) did not come from AHERA language. This requirement was added to clarify that a formal building inspection conducted by a building inspector that has been licensed by our Department is necessary.

Visually inspect the area to identify the locations of all suspected ACM. For a pre-demolition inspection, destructive sampling techniques shall be utilized.

b. Touch all suspected ACM to determine condition, friability, and whether ACM is a regulated material.

c. Identify all homogeneous areas of suspected ACM.

d. Assume that some or all of the homogeneous areas are ACM, and/or for each homogeneous area that is not assumed to be ACM, collect and submit bulk samples for analysis in compliance with this Section.

e. Assess suspect ACM in areas where samples were collected, in areas assumed to be ACM, and in areas identified as asbestos during previous inspections.

f. Neither Material Safety Data Sheets (MSDS) nor statements from the manufacturer or *architectural sign off* will be accepted as proof that a building product contains no asbestos.

C. Asbestos Inspection Report Contents – Integrated language from EPA 40 CFR Part 763.88, AHERA to promote consistency in building inspection reports and to make regulations more user-friendly.

Record the following and submit a written asbestos building inspection report to the building owner/owner's representative.

1. The inspection report shall include:

a. Client's name, company, address, and telephone number, and the name and exact location of the facility inspected;

b. The date the inspection was performed;

c. The date the inspection report was written; and

d. The printed name and telephone number of the inspector(s), and his or her affiliated company name, address, and telephone number.

2. A cover letter to the building owner or owner's representative that describes the purpose of the inspection; a general synopsis of the inspection and results; and the name, title, and signature of the inspector(s) and report writer, if different.

3. A detailed narrative of the physical description of the building that includes:

a. The square footage of the building;

b. The building materials used in the construction of the exterior, roof, interior, and basement or crawlspace of the building; and

c. An estimated or exact quantity (square or linear feet) for all suspect materials whether sampled for or assumed to be asbestos.

4. An executive summary that details:

a. The type of suspect ACM (e.g., TSI, floor tile, mastic), total square or linear footage, and the total number of samples collected for each separate homogenous area;

b. The date of the inspection, type, condition, quantity, sample results, and exact location of ACM positively identified in the building; and

c. A list of whether the homogeneous areas identified are:

(1) Surfacing material that includes, but is not limited to, joint compound; plaster; and painted, troweled on, or spray-applied textured material;

(2) Thermal system insulation (TSI) that includes, but is not limited to, pipe and boiler insulation; or

(3) Miscellaneous material that includes, but is not limited to, flooring, roofing, mastics, gaskets, cementitious materials, caulking, ceiling tiles, *fire doors, wall boards, and flexible duct connections.*

5. Type of damage or significant damage (e.g., flaking, blistering, water damage, or other signs of physical damage).

6. Severity of damage [e.g. major flaking or severely torn jackets (as opposed to occasional flaking or minor tears to jackets)].

7. Extent or spread of damage over large areas or large percentages of the homogeneous area.

8 Whether the material is accessible.

9. The material's potential for disturbance.

10. Known or suspected causes of damage or significant damage (e.g., air erosion, vandalism, vibration, water).

11. Preventive measures that may be used to eliminate the reasonable likelihood of significantly damaging previously undamaged ACM.

12. An indication of the classification of each suspect RACM as one of the following:

(a) Damaged or significantly damaged thermal system insulation ACM;

(b) Damaged friable surfacing ACM;

(c) Significantly damaged friable surfacing ACM;

(d) Damaged or significantly damaged friable miscellaneous ACM;

(e) ACM with the potential for damage; or

(f) ACM with the potential for significant damage.

13. The inspector's recommendation for the disposition of the ACM.

14. A complete, clear, legible copy of all laboratory bulk sample results.

15. Clear, legible drawing and/or photographs to effectively communicate site conditions. Include a photograph of the exterior of each building inspected, and each homogeneous area. Illustrate the exact location of each sample collected.

16. The printed name and signature of each accredited inspector who collected the samples, and a clear legible copy of his or her Department issued asbestos building inspector or management planner license.

D. Sampling – This section represents the existing sampling requirements with a few modifications. The same 3/5/7 rule applies for surfacing and TSI. Historically, miscellaneous materials were only required to have two samples taken from each homogeneous area. The Department proposes to increase that the number of samples from two to three for miscellaneous materials. The exception would be for floor tile. Floor tile would be sampled according to the 3/5/7 rule. The reason for the increase in the number of samples from 2 to three for miscellaneous materials is because 2 samples, especially when dealing with large quantities of material, provides a limited analysis of suspect material. The requirement for taking 3 samples of miscellaneous materials is supported by ASTM E 2356-04. The reason for the change from two samples of floor tile to the use of 3, 5, or 7 samples based on quantity of material stems from the fact that floor tile and the associated mastic may appear to be homogeneous and are not. Because of the difficulty to differentiate between the different batches of floor tile and mastic that may have been used, the Department believes that it is necessary to take more samples to get a more comprehensive analysis of suspect materials. The Department worked with the stakeholders to develop the improved sampling scheme.

1. A licensed asbestos inspector shall collect, in a statistically random manner, bulk samples from each homogeneous area of any surfacing material, TSI, and *floor tile* that is not assumed to be ACM, and shall collect the samples as follows:

(a) At least three bulk samples shall be collected from each homogeneous area that is 1,000 or fewer square feet (sf) or linear feet (lf) in size.

(b) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 but less than or equal to 5,000 sf or lf.

(c) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 sf or lf.

2. A licensed asbestos inspector shall collect, in a statistically random manner, at least three bulk samples from each homogeneous area of any miscellaneous materials, excluding floor tile.

D.23. Bulk samples collected per this regulation shall be analyzed for asbestos using laboratories accredited by the ~~National Bureau of Standards (NBS)~~, National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), or an equivalent standard as approved by the Department.

34. Bulk samples shall be analyzed for asbestos content by polarized light microscopy (PLM) using the “Interim Method for the Determination of Asbestos in Bulk Insulation Samples” found in Appendix E to subpart E of 40 CFR 763, the “Method for the Determination of Asbestos in Bulk Building Materials” (EPA/600/R-93/116), ASTM E2356, or other method(s) deemed acceptable by the Department on a case-by-case basis.

45. A homogeneous area is not considered ~~not~~ to contain ACM only if the results of all samples required to be collected from the area show asbestos in amounts of ~~less than~~ one percent (1%) or less.

56. A homogeneous area shall be determined to contain ACM based on a finding that the results of at least one sample collected from that area shows that asbestos is present in an amount ~~equal to or~~ greater than one percent (1%).

Section VII. Standards for Air Samplers.

Created an air sampling section with requirements for any sized abatement project.

Added requirement for use of a rotometer for calibration of air sampling equipment. The revision incorporates standard industry practice and provides specific guidance for calibration to improve quality of data.

B(5)(a) Ensure that all air sampling pumps ~~in use~~ are accurately calibrated prior to operation by utilizing a rotometer that has been calibrated within the past six months using a primary standard, such as a bubble burette or a dry calibrator. Calibration data shall be maintained at the project site for the duration of abatement.

Added requirement for at least four properly operating pumps at abatement project. This addition was made to ensure that the minimum air sampling requirements were achieved. Additionally, it emphasizes that there must be an independent pump for each area to be sampled. At minimum, the areas sampled include the location outside the work area, the entrance to the clean room, the dirty room, and negative air exhaust.

B(5)(d) Ensure that ~~adequate~~ there are always at least four sampling equipment pumps operating properly and devices are available for use at the project site ~~for the duration of any asbestos project requiring daily area air monitoring.~~

The requirement to maintain a log of daily activities was added. This reflects existing expectations and procedures.

B(5)(f) Maintain a log for the duration of an asbestos project describing daily activities

Made the following correction:

~~B(50)(g)~~ Follow the procedures specified in *Measuring Airborne Asbestos Following an Abatement Action, EPA Report 600/4-85-049 (1985)*, NIOSH 7400 or an equivalent method acceptable to the Department when conducting clearance air monitoring.

Clarified/quantified the sufficient number of background samples by incorporating current industry standards.

1a. The air sampler shall collect a ~~sufficient number~~ minimum of five air samples as determined by the air sampler, building owner, or his representative at a NESHAP abatement project prior to the start of abatement activities in order to obtain an index of background airborne fiber concentrations.

Made revision to require a copy of a sampling variance on-site for the duration of a project. This affords anyone entering the site an immediate explanation as to why standard sampling is not being conducted.

C(3). The air sampler shall document any variations and indicate the reasons for doing so justifications for the variations, and shall maintain a written copy of the sampling variation at the project site for the duration of the abatement, and provide the information to the Department upon request.

Added clarification on total volume of air to be collected during daily area and final clearance sampling. Parameters indicated are based on industry standards.

D(1)(e). The total volume of air collected for daily area air sampling shall be between 1,200 liters and 1,800 liters.

Clarified when background and area sampling are required for each sized abatement project and demolition project.

C(4). No background air sampling is required at small, minor, and operation and maintenance (O&M) abatement projects.

D(2). Once abatement activities begin at a small, minor, or O&M abatement project, daily area sampling shall be performed.

Clarified when PCM clearance is permissible and when TEM clearance is required. The requirement for TEM clearance monitoring was added. This requirement currently exists in North Carolina's asbestos regulations. TEM clearance is viewed as a better method for analyzing samples for the presence of asbestos. To promote and protect human health and the environment, the Department felt that a more stringent method was needed for project design size projects. The Department originally felt that the threshold for using TEM analysis should be set at NESHAP size projects, however, the majority of the stakeholders believed that the project design size was more feasible.

E(1). Where clearance air monitoring is required by this regulation, the clearance standard for any NESHAP abatement project shall be: by Phase Contrast Microscopy less than or equal to 0.01 f/cc; or by Transmission Electron Microscopy (TEM). The clearance standard is less than or equal to 70 s/mm², or a value of Z less than or equal to

1.65 for a Z test carried out as using the Mandatory TEM Method described in 40 CFR 763, Appendix A of Subpart E, as amended, and any subsequent amendments and editions. The Z test with a value of Z less than or equal to 1.65 for a Z test carried out as described in 40 CFR 763, Appendix A of Subpart E, as amended, and any subsequent amendments and editions, shall not be allowed for clearance purposes only with prior Department approval.

3a. A licensed air sampler shall conduct, at a minimum, TEM PCM clearance air monitoring at the completion of each NESHAP project and at small, minor, and O&M abatements when any personnel air sample result exceeds the 0.01f/cc PCM clearance standard. Projects exceeding the project design threshold (3,000 sf, 1,500 Lf, and 656 cubic feet of RACM) will require TEM clearance air monitoring.

8f. For any sized abatement projects subject to 40 CFR Part 763, AHERA, as amended, and any subsequent amendments or editions, conduct clearance air monitoring using TEM after abatement in areas to be reoccupied; (including interior spaces, porticos, and covered exterior walkways); and abatement on exterior portions of mechanical systems used to condition interior spaces. For projects equal to or greater than 160 sf, 260 Lf or 35 cubic feet, TEM clearance air monitoring is required.

Added requirement for asbestos supervisor to be on project site during final visual inspection and air clearance monitoring. The asbestos supervisor is responsible for the project. So, the Department believes that it is important for at least one project supervisor to be present during final clearance.

9. At least one licensed asbestos project supervisor shall remain at an asbestos project site for the duration of the final clearance visual inspection and clearance air sample collection process.

Section VIII. Disposal Requirements.

Created a disposal section that will be applicable to any sized abatement or demolition project.

Added a requirement that asbestos waste containers must be labeled prior to being placed in waste hauling vehicle. This requirement ensures that the bags and/or containers are properly labeled before being transported.

1(b). All asbestos waste bags and/or containers shall be properly labeled prior to being placed into the waste transport vehicle.

Used language from existing guidance document to add requirements for temporary waste storage containment area.

C. Temporary Asbestos Storage Containment Area Site.

1. Prior written approval must be obtained from the Department before a site other than an asbestos abatement project site can be used for the storage of regulated asbestos-containing waste from small, minor, or O&M asbestos Projects. NESHAP asbestos project waste must be deposited into an approved landfill and may not be stored.

2. Written authorization shall also be obtained from the facility owner or his representative prior to transporting regulated asbestos-containing waste from the facility site of generation (verification of the property owner's authorization must be sent directly to the Department by the facility owner).

3. In order to have a site permitted as a Temporary Asbestos Storage Containment Area, the operator must demonstrate that adequate precautions have been and will continue to be taken to ensure that the waste is properly maintained for the duration of its storage.

4. An operator must submit an application requesting a license for a Temporary Asbestos Storage Containment Area to the Department for review at least 45 working days in advance. The Department will acknowledge receipt of the application and notify the applicant of any deficiency in the application.

5. Within 45 working days after receiving a completed application, including additional information requested, the Department will issue a license or deny issuance of the license.

6. The Department reserves the right to inspect the proposed Temporary Asbestos Storage Containment Area prior to granting final approval.

7. Approval of the Temporary Asbestos Storage Containment Area will be valid for one year from the date of issuance unless the authorization is revoked or suspended by the Department at an earlier date.

8. The Department may revoke or suspend a license based on falsification of or known omission of information from an application for this license, omission or improper use of work practices, improper disposal of ACM, and/or spread of asbestos waste beyond the containment area.

9. In order to renew a storage license, the operator of a Temporary Asbestos Storage Containment Area must resubmit an application for off-site storage of regulated asbestos-containing waste to the Department at least 45 working days prior to the expiration of the existing permit. Previous approval of a site as a Temporary Asbestos Storage Containment Area does not guarantee re-issuance or continuance of a storage license.

Section IX. Exemption from Wetting.

Created a new section for wetting exemption. Language did not change.

Section X. NESHAP Projects.

Clarified notification expectations using a timeframe that stakeholders indicated that they believed was reasonable.

1(b). Update/revise the notification/application and pay appropriate fees as required/necessary, when any previously notified information changes, including but not limited to, when the amount of asbestos affected changes, or when the project start or completion date changes, and/or when the disposal site changes, and/or the project has been cancelled. The owner and/or operator shall notify the Department by telephone and

follow up in writing as soon as possible before, but not later than, the following working day.

Added requirement that the Department could request Project Designs. The Department did not believe that it was necessary for all project designs to be submitted. However, the Department would like the authority to request project designs as needed.

1(e). Project designs shall be submitted at the Department's request.

C. Work Practice. Added language from OSHA regarding warning signs and demarcation of regulated work area for consistency.

(a) Warning signs and tape that clearly separate the regulated area shall be provided and displayed at each location where a regulated area is required to be established by this Section. Signs shall be posted at a distance from the regulated area such that an employee may read the signs and take necessary protective steps before entering the area marked by the signs.

(b) The warning signs required by this Section shall bear the following information:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

AUTHORIZED PERSONNEL ONLY

Added the requirement to use at least two independent sheets of 6-mil poly for critical barriers. This change was made in response to a stakeholder comment and makes the state requirement consistent with the OSHA requirement.

(5) Seal each opening between the work area and uncontaminated areas including windows, doorways, elevator openings, corridor entrances, drains, ducts, electrical outlets, grills, grates, diffusers, and skylights with a critical barrier consisting of at least ~~one~~ two independent sheets of 6-mil or thicker polyethylene sheeting secured in place. These critical barriers must be maintained leak-tight for the duration of asbestos abatement.

Added requirement for the use of a manometer to verify negative pressure on containment. This is an industry practice. The department wanted to make it enforceable by adding it to the regulation. It is extremely important to have the ability to verify negative air. If negative air is not maintained, RACM may be released from containment.

(15) Utilize a manometer to measure negative pressure differential and operate it in accordance with the General Requirement Section of this regulation.

Clarified disposal requirements.

3(a)(4) All polyethylene sheeting, except for critical barriers and the decontamination enclosure system, is removed and disposed of as asbestos-contaminated waste.

3(a)(7) Following satisfactory clearance of the work area, remaining polyethylene critical barriers and decontamination enclosure systems are removed and disposed of as asbestos-contaminated waste.

Section XI. Small Project.

Added requirement that projects that were initially notified as small projects and additional material was discovered/added such that the total quantity was the size of a NESHAP project could not continue with abatement without prior approval from the Department. It is important that the Department is aware of the additional asbestos material so that it can determine that proper abatement activities are taking place based on the quantity of material being removed.

3. Update/revise the notification/application and pay appropriate fees as required when any previously notified information changes, including but not limited to, when the amount of asbestos affected changes, when the project start or completion date changes, and/or when the disposal site changes, and/or the project has been cancelled. The owner and/or operator shall notify the Department by telephone and follow up in writing as soon as possible before, but not later than, the following working day. When the amount of asbestos affected changes such that the total quantity being abated qualifies as a NESHAP project, prior approval must be granted by the Department for work to proceed.

Section XII. Minor Projects.

Added a four working day notification period. The Department would like the opportunity to assess any project for compliance. In order to have this opportunity, the Department must have previous knowledge of the planned activity. The four working day notification is consistent with the notification requirement for small projects.

B(1). The owner/operator shall provide the Department with a written application at least four working days notification prior to any abatement and pay all applicable fees as follows:

Clarified when updates were necessary and needed to be submitted.

B(1)(b). Update/revise the notification/application and pay appropriate fees as required when any previously notified information changes, including but not limited to, when the amount of asbestos affected changes, when the project start or completion date changes, and/or when the disposal site changes, and/or the project has been cancelled.

Added requirement that projects that were initially notified as minor projects and additional material was discovered/added such that the total quantity was the size of a NESHAP project could not continue with abatement without prior approval from the Department. It is important that the Department is aware of the additional asbestos material so that it can determine that proper abatement activities are taking place based on the quantity of material being removed.

B(1)(c). The owner and/or operator shall notify the Department by telephone and follow up in writing as soon as possible before, but not later than, the following working day. When the amount of asbestos affected changes such that the total quantity being abated qualifies as a small or NESHAP project, prior approval must be granted by the Department for work to proceed.

Section XIII. Operations & Maintenance Activities.

Clarified that O & M activities are performed under a facility group license.

1. The notification/application, work practice, clean-up, and disposal requirements of this Section shall apply to the non-industrial facility owner and/or operator, and the O&M personnel covered under the facility's group license.

Section XIV. Glovebag Technique

Clarified when glovebag systems may be used.

Glovebag systems may be used to remove ACM from straight runs of piping, elbows, and other connections when performed in compliance with the provisions of this Section and OSHA 29 CFR 1926.1101, as amended, and any subsequent amendments and editions.

Added language directly from the OSHA standard for glovebag or glovebox activities.

d. At least two persons shall perform glovebag removal operations.

e. Each glovebag shall be made of 6 mil thick plastic and shall be seamless at the bottom.

f. Each glovebag used on elbows and other connections must be designed for that purpose and used without modifications.

g. Each glovebag shall be installed so that it completely covers the circumference of pipe or other structure where the work is to be performed.

h. Each glovebag shall be smoke-tested for leaks and any leaks sealed prior to use.

i. A glovebag shall be used only once and may not be slid or moved.

j. Each glovebag shall not be used on surfaces whose temperature exceeds 150 degrees Fahrenheit.

k. Prior to disposal, each glovebag shall be collapsed by removing air within it using a HEPA vacuum.

l. Before beginning the operation, loose and friable material adjacent to the glovebag or glovebox operation shall be wrapped and sealed in at least two layers of 6-mil polyethylene.

m. Where a system uses an attached waste bag, such bag shall be connected to the collection bag using a hose or other material that shall withstand pressure of ACM waste and water without losing its integrity:

n. A sliding valve or other device shall separate the waste bag from the hose to ensure no exposure when waste bag is disconnected.

C. Negative Pressure Glovebag Systems.

1. Negative pressure glovebag systems shall be used to remove ACM from piping.

2. In addition to the requirements for glovebag systems in Section B. above, negative pressure glovebag systems shall have a HEPA vacuum attached to the glovebag/box to prevent collapse during removal.

3. A HEPA vacuum shall be used to prevent collapse of bag during removal and shall run continually until completion of operation, at which time the pipe shall be encapsulated, and the bag and ACM shall be isolated prior to removal of the bag from the pipe.

D. Negative Pressure Glovebox Systems.

Negative pressure gloveboxes may be used to remove ACM from pipe runs when the following work practices are utilized:

1. Gloveboxes shall be constructed with rigid sides and made from metal or other material that can withstand the weight of the ACM and water used during removal;

2. A negative pressure generator shall be used to create negative pressure in the system;

3. An air filtration unit shall be attached to the box;

4. The box shall be fitted with gloved apertures:

a. An aperture at the base of the box shall serve as a bagging outlet for waste ACM and water;

b. A back-up generator shall be present on site;

c. Waste bags shall consist of 6 mil or thicker plastic and be double-bagged before they are filled;

5. At least two persons shall perform the removal;

6. The box shall be smoke-tested for leaks and any leaks sealed prior to use;

7. Loose or damaged ACM adjacent to the box shall be wrapped and sealed in at least two layers of 6-mil or thicker plastic prior to the job or otherwise made intact prior to the job; and

8. A HEPA filtration system shall be used to maintain pressure barrier in the box.

Clarified that non-aggressive PCM clearance air monitoring may be done at a minimum.

2. ~~Static~~ ~~Non-aggressive~~ ~~Transmission Electron Microscopy (TEM)~~ ~~Phase Contrast Microscopy (PCM)~~ clearance air monitoring shall, at a minimum, be required for NESHAP and small asbestos glovebag or glovebox projects.

Added requirement for TEM clearance monitoring for reasons indicated in the existing regulation that would terminate the use of a glovebag and initiate cleanup procedures. As indicated, TEM clearance is a more stringent method. So, to effectively promote and protect human health and the environment, TEM should be done.

F(1). Use of the glovebag shall be terminated, and cleanup procedures per contained in this section shall be implemented, and clearance by TEM analysis performed if the owner and/or operator:

- a. Fails to keep RACM in the glovebag;
- b. Fails to keep RACM adequately wet;
- c. Disturbs or dislodges RACM outside of the glovebag; and/or
- d. Experiences glovebag failure, including any breach in the glovebag/glovebox.

Revised the following language to clarify the intent of the regulation:

D(2)(a). Porous surfaces, which have been stripped or cleaned of RACM, are encapsulated to secure any residual fibers that may be present prior to removing the glovebag or glovebox from the abated pipe. The encapsulant chosen must be chosen to be compatible with subsequent coverings.

Clarified that the disposal requirements of the new disposal section are applicable.

Section XV. Non-Friable Projects.

To ensure compliance with the regulations, the Department feels that it is important to add a requirement that a contractor or individual performing a NESHAP sized non-friable abatement obtain a license at least 4 working days prior to beginning removal. Non-friable removals are not required to be performed by licensed abatement contractors. So, it is possible that the ACM could be rendered regulated without the contractor or individual knowing. Inspections of these projects would improve compliance issues as well as reduce potential exposure to RACM.

1(b). Provide the Department with a written application request for disposal and obtain a Department-issued abatement license for the project four (4) working days prior to beginning abatement for NESHAP sized projects of 160 sf or 260 Lf. The license shall be maintained at the project site for the duration of the project, start date, at transporting waste from the facility site.

The following language was added to clarify notification requirements:

- B(1) c. For all other projects, provide a written application prior to disposal;
- d. Facilities and those in possession of a temporary asbestos storage containment area license may notify the Department quarterly;
- e. Non-regulated residential structures must provide a written application prior to disposal;
- f. Applications must also be submitted for projects where waste will be disposed of out-of-state;

Added drilling to the list of work practices that are not acceptable on Category I and Category II ACM. Drilling has the same impact as the other practices already listed.

C(3). Category I and Category II ACM which that will not be or has not been subjected to grinding, sanding, cutting, chipping, drilling, or abrading shall be considered non-regulated ACM, and the owner/operator shall comply with all applicable requirements of OSHA 29 CFR 1926.1101, as amended, and any subsequent amendments or editions.

Changed timeframe for waste manifest submittals based on stakeholder feedback.

D(4)(c). Submit a copy of the waste shipment record or other shipment manifest to the Department within 30 working days of project after abatement completion.

Section XVI. Demolition.

Clarified acceptable methods of payment.

c. Acceptable methods of payment shall be by check or money order made payable to SCDHEC, credit card (VISA, MasterCard, or Discover), and cash.

Clarified that each non-adjointing building at a multi-building site is a separate project.

~~B(1)(d). Submit a written notification of the demolition project license application for each separate facility which that includes all information required on the application form, in Section V.B.~~

Clarified that a demolition license is required whether or not asbestos is present in a regulated structure.

~~B(2). Notification requirements of Section XIII.B.1.a. shall apply. Obtain an asbestos demolition license for including any facility, in which regardless of whether the required building inspection indicates the presence of there are or are not no asbestos-containing materials present ACM.~~

Added a requirement that all asbestos, both friable and non-friable, must be removed prior to demolition. During the demolition process, it is highly likely that the non-friable material that is left in place will be rendered regulated due to associated activities. Demolition contractors are not licensed by the Department and are not required to have any type of asbestos related training. So, it is possible for demolition contractors to treat ACM in a manner that renders the material regulated. Because of their lack of training, they would not be able to identify the potential

hazard and take necessary precautions. Additionally, they may not know when it is appropriate to notify the Department in order to receive proper guidance. The potential for exposure to RACM exists. The threat may be eliminated by requiring all ACM to be removed prior to demolition. There are other states (West Virginia, New York, Nebraska, Washington, and Delaware) that currently enforce this requirement.

2. All ~~asbestos-containing materials~~ ACM, ~~with the exception of those materials referenced in paragraph E. of this Section,~~ shall be removed in accordance with work practice requirements for applicable NESHAP, small, or minor projects prior to demolition.

Clarified when air monitoring may be required at a demolition project.

1. ~~Background and daily~~ Air monitoring is not required during a demolition except when necessary due to an extenuating circumstance and/or required by the Department.

Deleted Section E on exemption from removal for non-friable ACM. This was done to support previous revision.

Clarified that demolition of a building that has been destroyed by fire must be licensed as a demolition.

1. ~~The Department shall charge a fee of \$50.00 to issue a project license for demolition projects.~~ A project license is required for every facility that is to be demolished, including those that have been destroyed by fire including any facility or those whose in which the required building survey indicates there are is no asbestos-containing materials ACM present.

Section XVII. Outdoor Projects.

Clarified that air monitoring is not required for projects not subject to 40 CFR Part 763 AHERA.

2. ~~No background or daily area a~~ Air monitoring is not required for Outdoor Projects which that are not subject to EPA 40 CFR Part 763, AHERA regulation.

Section XVIII. Encapsulation and Enclosure.

Quantified the minimum number of background air samples to be taken based on industry standard/practice.

- b. At least five sufficient number of air samples shall be collected prior to the start of abatement activities in order to obtain an index of background airborne fiber concentrations.

Added requirement for TEM clearance prior to re-occupancy of the space. TEM clearance is a more stringent analysis. The Department believes that in order to ensure a safe environment for re-occupancy after such a large-scale project TEM analysis should be used.

The owner/operator shall ensure that non-aggressive TEM clearance air monitoring is conducted prior to re-occupancy of any area that has been encapsulated.

Section XIX. Training.

Created a new section with all of the training related requirements including fees.

Made correction:

B(1)(2)(a) The ~~ASHARA~~**AHERA** Model Contractor Accreditation Plan, 40 CFR 763, Subpart E, Appendix C (*Federal Register*, Volume 59, Number 23, Thursday, February 3, 1994) as amended, and any subsequent amendments and editions, and this regulation; ~~or~~

Removed reference to roofing workers since roofing section removed.

~~C(1)(a)(2)(c) The roofing workers and supervisors as specified in this sSection. XII. of this regulation.~~

~~6(d). The examination for roofing and operation and maintenance courses shall consist of a minimum of 50 multiple choice questions for supervisor discipline and 25 for the worker discipline.~~

~~**E. Roofing Training Course Instructor Qualifications.**~~

~~1. Any person seeking approval as an instructor for courses covered by this Section shall meet the applicable requirements as specified herein.~~

~~2. Instructors who will teach segments of training courses covered by this Section other than work practice topics, hands-on exercises, or field trips shall meet both of the following requirements:~~

~~a. Be a trained professional actively working in the field of expertise in which training is conducted; and~~

~~b. Have a minimum of a high school diploma or equivalent.~~

~~3. Instructors who teach work practice and hands-on topics in Department approved initial or refresher course for roofing workers or roofing contractors/supervisors shall meet all of the following requirements:~~

~~a. Successfully complete either an approved initial asbestos supervisor or asbestos roofing supervisor's course and subsequent annual refresher courses;~~

~~b. Either document: at least three months of work experience as a roofing supervisor or foreman or meet the requirements for an instructor as per the requirements of this regulation; and~~

~~c. Successfully complete an initial or refresher building inspector course.~~

~~**F. Requirements for Asbestos Roofing Training Courses.**~~

~~1. Applicants seeking a license as a roofing worker or contractor/supervisor are required to successfully complete an initial or refresher roofing training course approved by the Department. Initial and subsequent refresher training courses for roofing workers and contractors/supervisors shall meet requirements of this Section.~~

a. An initial training course for roofing workers shall be one day in length. Actual instruction time shall be at least six and one half hours and shall cover all of the following topics:

(1) Physical characteristics of asbestos, including the identification of asbestos, the aerodynamic characteristics of asbestos fibers, and the typical uses of asbestos in roofing materials;

(2) Health effects related to asbestos exposure, including the nature of asbestos-related diseases, the routes of exposure, the dose-response relationship, the lack of a safe exposure level, the latency period, cigarette smoking and asbestos exposure, medical surveillance programs, and information on smoking cessation programs;

(3) State-of-the-art work practices, including proper work techniques to minimize fiber release, removal procedures for cement products versus built-up roof products, discussion of prohibited work practices, wetting, hand tools, power tools, HEPA vacuuming tools, waste disposal procedures, and controlling access to work areas;

(4) Personal protection equipment, including the classes and characteristics of respirator types; limitations, proper selection, inspection, donning, use and storage procedures for respirators; fit testing; components of a proper respiratory protection program; and selection, use, and storage of non-disposable clothing, hard hats, safety glasses, and non-slip shoes;

(5) Personal hygiene, including entry and exit procedure for the work area; avoidance of eating, drinking, smoking, and chewing (e.g., gum or tobacco) in the work area; and potential exposures (such as family exposure);

(6) Safety practices and hazard prevention during removal of roofing materials and emergency procedures, including hazards posed by wet working conditions, electrical hazards, slips, trips, falls, and scaffold and ladder hazards; and

(7) Review of State and federal regulations, including but not limited to, an overview of the asbestos regulations under the National Emission Standards for Hazardous Air Pollutants 40 CFR Part 61, Subpart M, as amended, and any subsequent amendments and editions; the Occupational Safety and Health Act 29 CFR 1926.1101, as amended, and any subsequent amendments and editions; and this regulation.

b. Initial training courses for roofing contractors/supervisors shall be at least two days in length and cover the topics specified in F.1.a. of this Section. Actual instruction time shall be at least six and one half hours each day. All of the following additional topics shall be covered in roofing supervisor courses:

(1) Discussion of the competent person duties required by the Occupational Safety and Health Act's Asbestos Construction Standard, 29 CFR 1926.1101, as amended, and any subsequent amendments and editions;

(2) Pre-work activities and considerations, including the determination of asbestos-containing roofing products, bulk sampling procedures, analytical methods, the inspection report, and air monitoring procedures;

~~(3) Assessment of the work area, including isolating the work area, considerations if the work area is adjacent to an occupied area, and items requiring special protection;~~

~~(4) Site consideration and preparations, including the regulated areas, barricade set-up, warning signs;~~

~~(5) Supervisory techniques, worker training, cleanliness of the job site, record keeping, and documentation requirements; and~~

~~(6) The state-of-the-art work practice topics shall include a segment of hands-on activities, allowing the students an opportunity to use and handle equipment found on asbestos roofing projects. The hands-on activities shall be a minimum of two hours for the roofing worker course and four hours for the roofing supervisor course.~~

~~c. The refresher training course for roofing workers shall be at least one-half day in length. The refresher roofing supervisor course shall be at least one day in length. These courses shall review and discuss changes in the federal and State regulations, developments in state-of-the-art procedures, and key aspects of the initial courses as provided in F.1.a. and F.1.b. of this Section.~~

~~d. The requirements of this Section for certificates, notification and reporting, record keeping, testing, foreign language instruction, effectiveness of training, course approval and periodic audits shall apply to roofing courses and course provider trainers.~~

Revised the requirement for the social security number appearing on the certificate in order to reduce identity theft.

7(b)(1) Name and **last four digits of the** social security number of the trainee;

Added language to illustrate the Department's authority for rejecting applications for instructor approval.

The Department reserves the right to reject instructor training and/or experience that it deems unacceptable for qualification.

Section XX. Industrial Manufacturing and Electrical Generating Facilities.

Made correction and clarification regarding training requirements.

1. Employees who perform OSHA-designated Class I, **and II**, ~~and III~~ work not subject to OSHA's exceptions shall receive training consistent in length and curriculum with 40 CFR Part 763, Subpart E, Appendix C, as amended, and any subsequent amendments and editions. ~~Roofing workers and supervisors shall receive training consistent with Section XI.I.~~ **Employees who perform OSHA designated Class III work not subject to OSHA's exceptions shall receive training consistent in length and curriculum with 40 CFR 763.92(a)(2).**

Revised group license fee schedule. There is just a flat fee of \$100. The fee was determined by taking the average of the fees for industrial group licenses. This simplifies and standardizes the process.

F. Group License Fee

~~Schedule.~~ The fee for a ~~G~~ group license shall be \$100.00, regardless of the number of individuals covered under the group license.

Section XXI. Reprimands, Suspensions and Revocation.

No change

Section XXII. Contested Cases.

Section has been changed to reflect the Department's new appeal process.

A. A Department decision involving the issuance, denial, renewal, suspension, or revocation of a permit or license may be appealed by an affected person with standing pursuant to applicable law, including S.C. Code Title 44, Chapter 1 and Title 1, Chapter 23.

B. Any person to whom an order or civil penalty is issued may appeal it pursuant to applicable law, including S.C. Code Title 44, Chapter 1 and Title 1, Chapter 23.

Section XIII. Records.

No change

Section XXIV. Other Requirements.

No change

Section XXV. Severability Clause.

No change